

Thursday, May 05, 2016 1:33:35 PM

847.4112
B145327
REV. N/C

145327

Page 1

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Clip

Start Date: 5/18/2016 **Start Qty:** 8.00 ***g***

Cust Item ID:

Required Date: 5/27/2016 **Req'd Qty:** 800 ***O***

Customer:

Reference:

Approvals: Process Plan: MW Date: MAY 06 2016

Tooling: _____ **Date:** _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
647.4100	n/c

110

0.10

110

Waterjet

FLOW CNC Waterjet

Memo

0.08

1-Cut as per Dwg

Dwg Rev: 016

Prog Rev: nic

2-Deburr if necessary

120

QC2- Inspect parts off machine FAI/FAIB

0.00

120

QC

Quality Control

Memo:

0.08

PR 2016/07/19
DAS
14
9-89 16/07/20

DAS
74
9-89 16/07/21

Work Order ID 145327

Thursday, May 05, 2016 1:33:35 PM

145327

Page 2

Item ID: 647.4112

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Clip

Start Date: 5/18/2016 Start Qty: 8.00

8

Cust Item ID:

Required Date: 5/27/2016 Req'd Qty: 8.00

8

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

130

QC8- Inspect parts - second check

0.00

130

QC

Memo

0.16

Quality Control

12

DAS
38
9-89

JUL 20 2016

PTD

140

Bend as per dwg

0.13

140

Brake NC

Memo

0.32

Brake NC

DAS
30
9-89

12

150

QC5- Inspect part completeness to step on W/O

0.00

150

QC

Memo

0.16

Quality Control

11

DAS
38
9-89

JUL 22 2016

Received 11x Sp/16-8/10

DQA:

Date: 16.08.29

QA Closed

Date: 16.08.18

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only ☐DAR
AEROSPACE

Work Order: 145327

Part No. 647.4112

NCR No. 16-5984

DISPOSITION

Rework ☐Scrap ☒Use-as-is ☐Suspected Unapproved ☐Skid-tube ☐Machining ☐Thermoforming ☐Large Fab ☐

AGAINST DEPARTMENT/PROCESS

Cross tube ☐Small Fab ☒Finishing ☐Composite ☐Water Jet ☐Prod. Eng. Coord. ☐Rec/Store/Packaging ☐Supplier ☐Engineering ☐Quality ☐Other ☐

Date:

16/07/21

Step #:

130

QTY Effective:

1

MRB (OS1042) Approval

DAS

9

9-89

16-07-22

Description Work Order Deviation

Disposition

1 part is scrap out to Berne

Scrap & destroy

No replace

Completed By

DAS

30

9-89

16-07-22

Lead hand / Supervisor
Approval Verification

DAS

30

9-89

DAS

38

9-89

QC / QA Coordinator

DAS

9

9-89

16-07-22

Root Cause

Environment ☐Design ☐Doc/Data ☐Equip/Tooling ☐Handling/Pre ☐Material ☐Internal Transport ☐Tribal Knowledge ☐LOA ☐Substation ☐Past Expiry Date ☐Misidentified ☐No Re-verification ☐Operator ☐Offset/Setup ☒Supplier ☐Training ☐Use for Testing ☐Poor Information ☐Rushing ☐Product Improvement ☐Process Improvement ☐Manufacturing Process ☐Past Due ☐Pressure/Forced ☐Bending ☒Centre Not Concentric ☐Cracks ☐Crimp/Kink/Ripple/Wave ☐Cuffs ☐Crushing ☐Heat Treat ☐Wave/Twist in Tube ☐Marks/Chatter ☐

OTHER:

FAULT CATEGORY

Temperature/Cure ☐Set-up ☐BOM/Route ☐Broken/Damage/Defect ☐Inspection Incomplete/Unqualified ☐Contamination ☐Countersink ☐Cut Too Short ☐Instructions Incomplete/Unclear ☐Drill Holes ☐Power Loss/Surge ☐Folio/Program ☐Grain ☐Weld ☐Wrong Stock Pulled ☐Out of Sequence ☐Off-set ☐Mislabelled ☐Fit/Function ☐Misaligned/off center ☐Positioned Wrong ☐Outside Dimensions ☐Over/Under tolerance ☒Part Incorrect ☐Part Lost/Missing ☐Part Moved ☐Drawing ☐Finish ☐Misread ☐Turning Sequence ☐

Work Order ID 145327

Thursday, May 05, 2016 1:33:35 PM

145327

Page 3

Item ID: 647.4112 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Clip
Start Date: 5/18/2016 Start Qty: 8.00 ***8*** Cust Item ID:
Required Date: 5/27/2016 Req'd Qty: 8.00 ***8*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	Outsource process-Anodize per QSI017 4.1.10.1	0.00							
160									
Outsource4	Memo	1,440.00							
Outsource process - Anodize	Issue P/O to ATG : <u>33188</u>								
	1- Black Anodize as per Dwg 647.4100								
	2- PRIME AS PER DWG, SEE NOTE #2								
	Certification of Comformity is required								
170	Receive & Inspect for Damage & Mat'l Certs	0.00							
170									
Packaging	Memo	0.16							
Packaging									
180	QC5- Inspect part completeness to step on W/O	0.00							
180									
QC	Memo	0.16							
Quality Control									

C 1607-28

11

AUG 12 2016

DAS 713 9-89

(11)

DAS 38 9-89

AUG 15 2016

Thursday, May 05, 2016 1:33:35 PM

Page 4

AUG 16 2016

Picklist Print

Thursday, May 05, 2016 1:33:39 PM

Page 1

Work Order ID: 145327

145327

Parent Item: 647.4112

647 4112

Parent Item Name: Clip

Start Date: 5/18/2016

Required Date: 5/27/2016

Start Qty: 8.00

Required Qty: 8.00

Comments: IPP REV:A 12.10.26 NEW ISSUE DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M2024T3S.070		Purchased		No		110	sf	40.8000	0.13	1.094737			

M2024T3S 070

2024-T3 .070 sheet

PR 2016/07/19

Location

Loc Qty

Loc Code

MAT022

40.8

m130387

40.8

DAS

14

9-39

16/07/20

~~0.09~~

APICAL
INDUSTRIES, INC.

ENGINEERING CHANGE NOTICE NL 04510

SHEET 1 OF 1

DWG NO. 647.4100

REV: N/C

PREPARED BY:

J. BECKER

DATE: 04/24/14

EFFECT ON DWG
☐ INC. ☒ UNINC.

DWG TITLE: SHEETMETAL

APPROVED BY:

ENGR

MFG

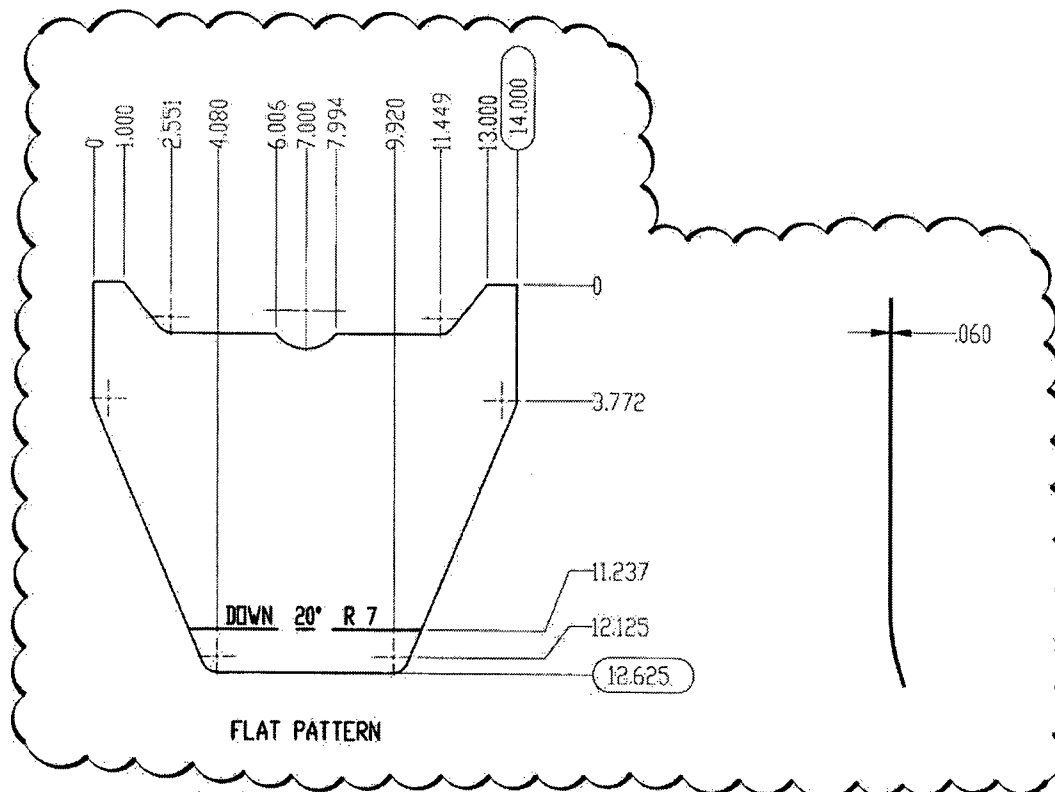
QC

EFF:

NEXT ORDER

TRANSACTION CODES (TC):
A-ADD C-CREATE
R-REVISE D-DELETE

REASON: MODIFIED DOUBLER.



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 145327 MJ
1005-06

DOCUMENTS EFFECTED:

☐ MDL ☐ INSTALL INSTRUC ☐ ICA ☐ BOM

CHANGE CATEGORY
☐ MAJOR ☒ MINOR

DER REVIEW REQUIRED
☐ YES ☒ NO

APICAL
INDUSTRIES, INC.

ENGINEERING CHANGE NOTICE NO. 02866

SHEET 1 OF 1

DWG NO. 647.4100

REV: N/C

PREPARED
BY

R. ROSANO

DATE: 05/05/10

EFFECT ON DWG
☐ INC. ☒ UNINC.

DWG TITLE: SHEET METAL

APPROVED BY:

ENGR

MFG

EFF:

CURRENT ORDER

TRANSACTION CODES (TC):
A-ADD C-CREATE
R-REVISE D-DELETE

REASON: CHANGED PRETREATMENT CALLOUT

SHEET 1, ZONE A1 IS:

NOTES: UNLESS OTHERWISE SPECIFIED

1. MATERIAL: ALUMINUM 2024-T3 PER AMS-QQ-A-250/4

2. FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE II,
CLASS 2, COLOR BLACK,
PRETREAT PR-148 ADHESION PROMOTER
PRIME IAW MIL-P-23377J TYPE I GLASS N

IS

3. DEBURR AND BREAK ALL SHARP EDGES

4. IDENTIFY IAW MPP-120

F/N	TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL	SPECIFICATION
DOCUMENTS EFFECTED:				☐ MDL ☐ INSTALL INSTRUC ☐ ICA ☐ BOM	CHANGE CATEGORY ☐ MAJOR ☒ MINOR	DER REVIEW REQUIRED ☐ YES ☒ NO

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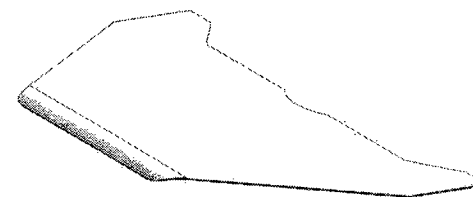
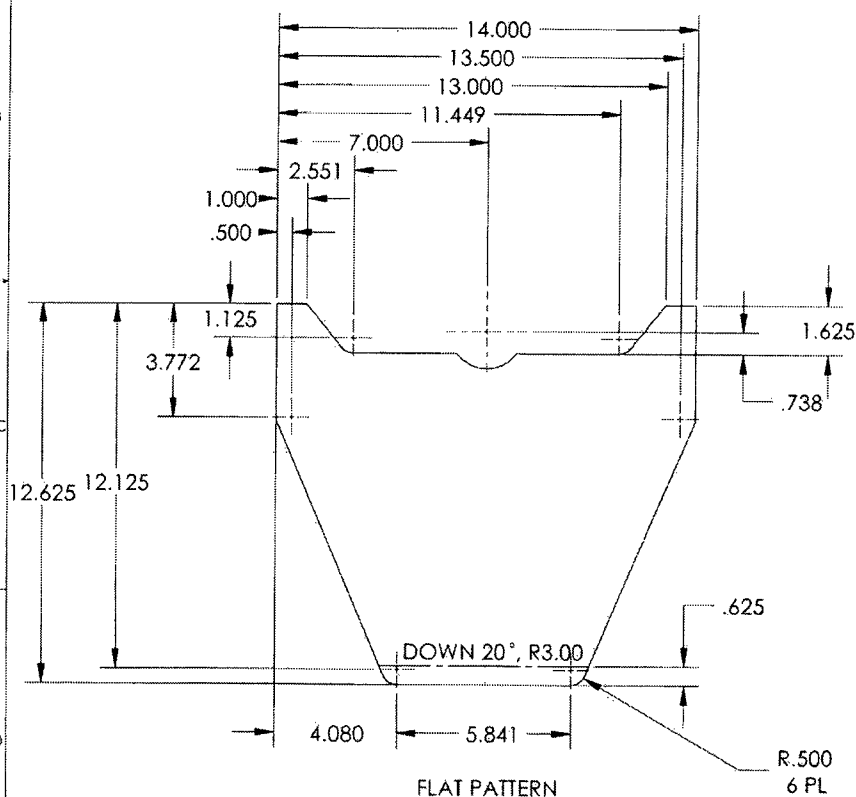
NOTES: UNLESS OTHERWISE SPECIFIED

1. MATERIAL: ALUMINUM 2024-T3 PER AMS-QQ-A-250/4

2. FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE II, CLASS 2, COLOR BLACK;
CARDINAL 4860-50 PRETREATMENT PRIMER
PRIME IAW MIL-P-23377J TYPE I CLASS N

3. DEBURR AND BREAK ALL SHARP EDGES

4. IDENTIFY IAW MPP-120



647.4110

.060

UNINCORPORATED ECN(s)

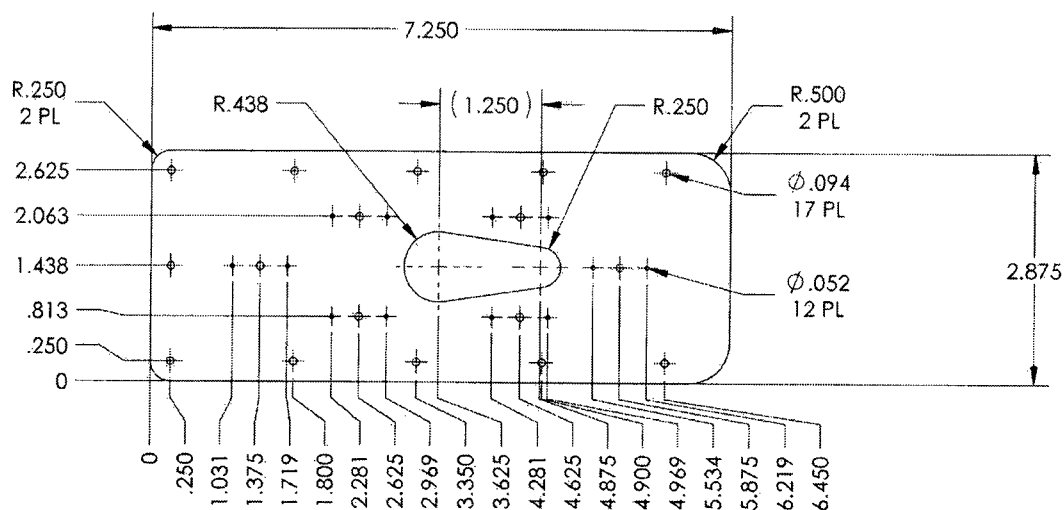
02866, 04510,

		647.4116	SHIM	△	△
		647.4115	SHIM	△	△
		647.4114	SHIM	△	△
		647.4113	CLIP	△	△
		647.4112	CLIP	△	△
		647.4111	DOUBLER	△	△
		647.4110	DOUBLER	△	△
	FIND #	PART #	DESCRIPTION	MATL	SPEC.
QTY	PARTS LIST				
NEXT ASSY (S)		GENERAL DATE	DESIGNED BY	APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
647.4110		REVISION	ENGINEER		
		DATE	DATE		
		BY	BY		
		APPROVAL	APPROVAL	SHEETMETAL	
		DATE	DATE		
		BY	BY		
		APPROVAL	APPROVAL		
		DATE	DATE	SCALE NONE	
		BY	BY		
		APPROVAL	APPROVAL		
		DATE	DATE		
		BY	BY	SHEET 1 OF 6	
		APPROVAL	APPROVAL		
		DATE	DATE		
		BY	BY		

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.040
TYP.

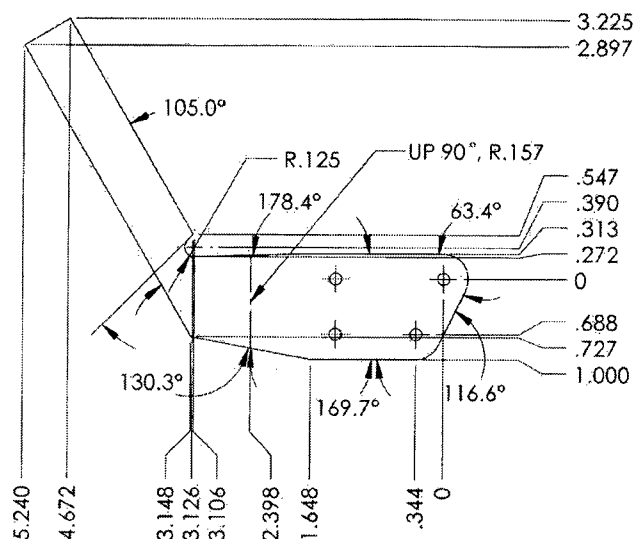
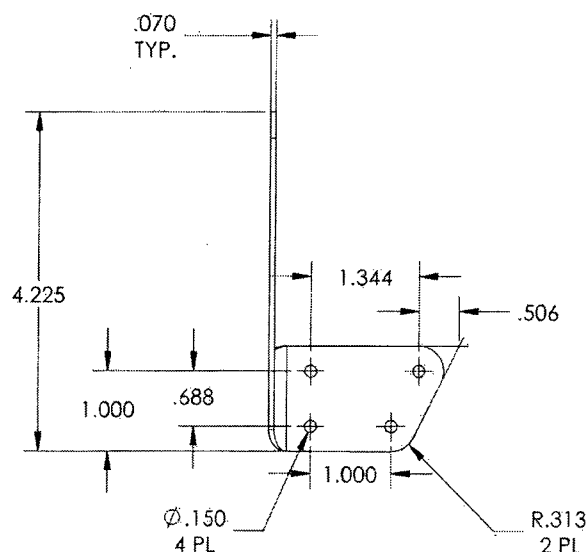
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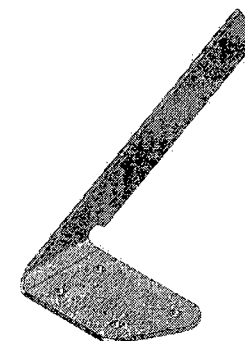
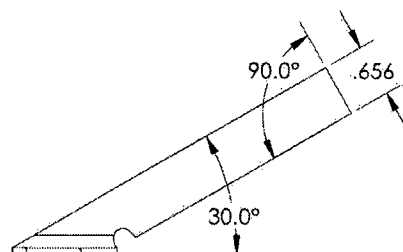
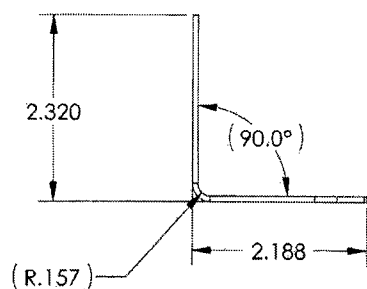
ORIGINAL DATE		APICAL INDUSTRIES	
UNDESIGNED BY		2608 TEMPLE HEIGHTS DR.	
DRAWN BY		OCEANSIDE, CA. 92056-3512	
R. KOSMAY		(760) 724-5300	
CHECKED BY		SHEETMETAL	
D. BARKER		REV. 07/20/05	
APPROVED BY		SCALE NONE	
UNLESS OTHERWISE SPECIFIED		SHEET 2 OF 6	
DIMENSIONS ARE IN INCHES			
TOLERANCES ARE:			
2 PLACE DECIMALS ±.01			
3 PLACE DECIMALS ±.005			
ANGLES ±.5°			

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REV.	DESCRIPTION	DATE	APPROVED



FLAT PATTERN



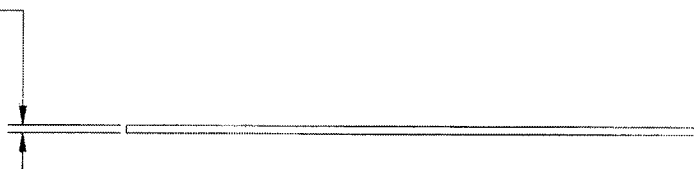
647.4113 SHOWN
647.4112 OPPOSITE

ORIGINAL DATE DESIGNED BY DRAWN BY P. POSANS CHECKED BY J. PARKER DRAWING APPROVAL P. BRAY REVISION CONTRACT NO.	APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92036-3512 (760)724-5300 SHEETMETAL
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES 2 PLACES DECIMALS ±.01 3 PLACES DECIMALS ±.005 ANGLES ±.5°	JOB / CASE CODE B 07AN26 DWD. NO. 647.4100 REV. N/C SCALE NONE SHEET 3 OF 6

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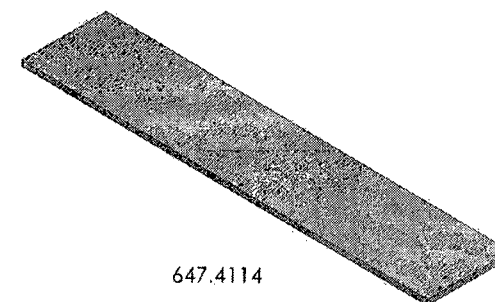
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED

.063



4.80

.984



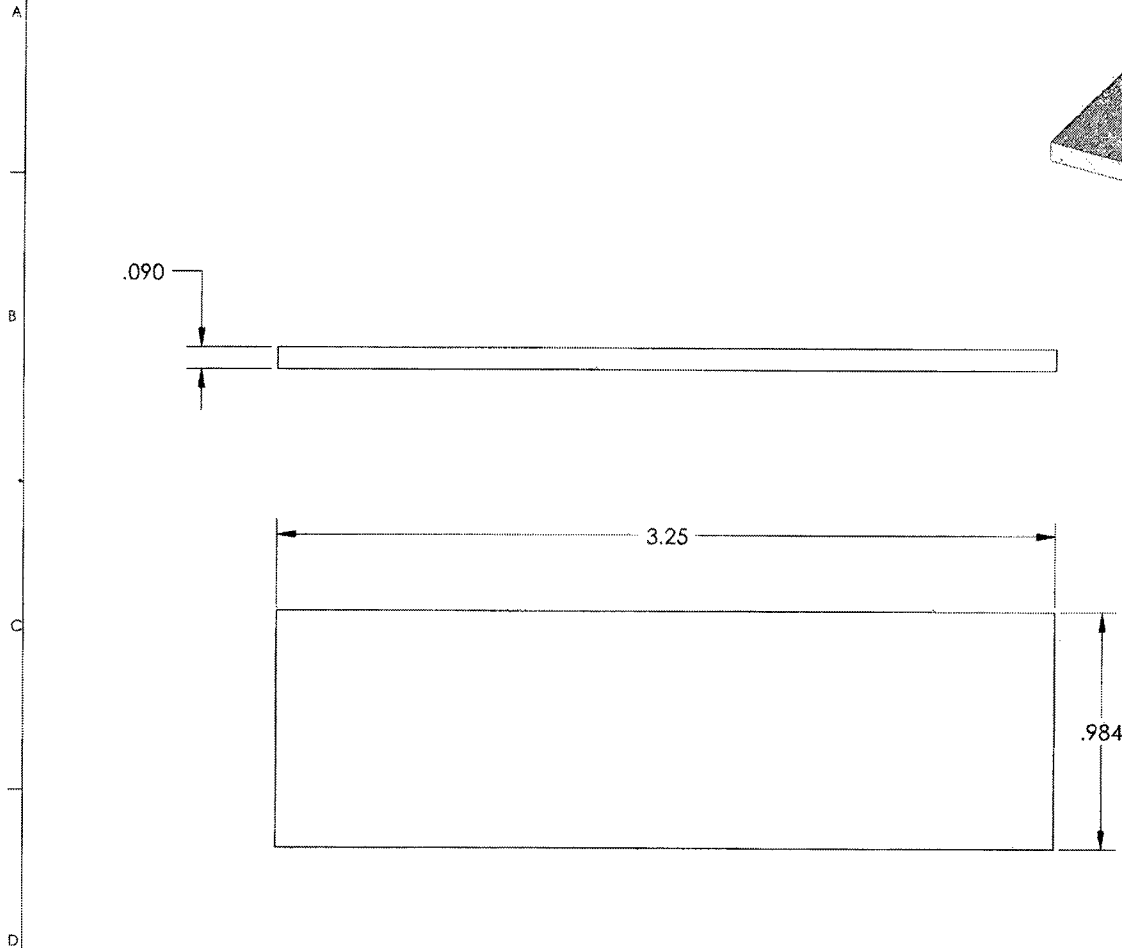
647.4114

ORIGINAL DATE (S-CO-00001) 08/20/08		APICAL INDUSTRIES	
DRAWN BY F. ROJAS		2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300	
CHECKED BY D. BARKER		SHEETMETAL	
DRAWING APPROVAL P. BRAVO		PART NO. 647.41100	
CONTRACT NO.		REV. N/C	
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ± .01 3 PLACE DECIMALS ± .005 ANGLES ± .5°		SCALE: NONE	

SHEET 4 OF 6

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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED



ORIGINAL DATE INDUSTRY DATE DRAWN BY R. KOSMANO CHECKED D. BARBER QUANTITY APPROVAL J. BRADY QUANTITY CONTRACT NO.		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FINISH DIMENSIONS ±.01 UNFINISHED DIMENSIONS ±.005 ALL DIMENSIONS TO FACE		SEE SCALE CODE B 07M26	DWG. NO. 647.4100
SCALE NONE		REV. N/C	SHEET 5 OF 5

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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED

.050

2.00

.875

647.4116

ORIGINAL DATE: 08/21/09 INCHES: 1/8"		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWN BY: J. HUNTER CHECKED BY: J. HUNTER DESIGNED BY: J. HUNTER P. HUNTER CONTRACT NO.	SHEETMETAL		REV: N/C
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 1/16" DECIMALS ±.01 3/16" DECIMALS ±.005 ANGLES ±.5°		SIZE: 6" x 6" CODE: D7M16 DWG. NO: 647.4100 SCALE: NONE	SHEET: 6 OF 6



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO33188

Purchase Order Date 7/28/2016

PO Print Date 8/3/2016

Page Number 2 of 4

Order From :

VC-ATG001

Ship To : DART AEROSPACE LTD

A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE ROAD
ROCKLAND, ON K4K 1T2
CANADA

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone

613-446-4544

Ship To Contact

Ship To Phone

Ship Via:

VENDOR'S TRUCK

Ship Acct:

Buyer

Customer POID

Customer Tax #

10127-2607

Terms

Net 30

Currency

CAD

FOB

FCA - (Free Carrier)

Line Total:

\$121.00

4 145327

647.4112

8/5/2016

Yes

8/5/2016

11.00

\$7.00

\$77.00

FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-P-23377J TYPE 1 CLASS N

Line Total:

\$77.00

5 145488

647.4113

8/5/2016

Yes

8/5/2016

12.00

\$7.00

\$84.00

FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-P-23377J TYPE 1 CLASS N

Line Total:

\$84.00

6 148562

650.9201

8/5/2016

Yes

8/5/2016

6.00

\$6.60

\$39.60

FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-P-23377J TYPE 1 CLASS N

Line Total:

\$39.60

Note:

8/3/2016



A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE STREET
ROCKLAND, ON K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 912097

Date: 11-Aug-16

To

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ship To

CHANTAL LAVOIE
Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ph: 613 632-9577

Fax: 613 632-1053

Ph: 613 632-9577

Fax: 613 632-1053

Ph: 613 632-9577		Fax: 613 632-1000	
Terms		Ship Via	
Quantity	Description		
	PLEASE REFERENCE THE PACK LIST NUMBER ON ALL CORRESPONDENCE TO THIS SHIPMENT. IF YOU HAVE ANY QUESTIONS, PLEASE CALL AT (613) 446-4544.		
12 ea	Part: 647.0110	Rev:	
	Job: 19921	PO: PO33188	Line: 1
10 ea	Part: 646.9910	Rev:	
	Job: 19922	PO: PO33188	Line: 2
4 ea	Part: 647.1710	Rev:	
	Job: 19923	PO: PO33188	Line: 3
11 ea	Part: 647.4112 ✓	Rev:	
	Job: 19924	PO: PO33188	Line: 4
12 ea	Part: 647.4113	Rev:	
	Job: 19925	PO: PO33188	Line: 5
6 ea	Part: 650.9201	Rev:	
	Job: 19926	PO: PO33188	Line: 6
5 ea	Part: 647.1712	Rev:	
	Job: 19927	PO: PO33188	Line: 7
1 ea	Part: ADMINISTRATION FEE	Rev: N/A	
	ADMINISTRATION FEE		
	Job: 19928	PO: PO33188	Line: 9



A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE STREET
ROCKLAND, ON K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 912097

Date: 11-Aug-16

To

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ship To

CHANTAL LAVOIE
Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ph: 613 632-9577

Fax: 613 632-1053

Ph: 613 632-9577

Fax: 613 632-1053

Terms		Ship Via
Quantity	Description	
	DATE: <u>11/08/16</u>	
	CERTIFIED SIGNATURE: <u>[Signature]</u>	
	RECEIVER SIGNATURE: <u>SP/6-8-12</u>	
Note: This Packing Slip may contain parts that have been PLATED. Items that are plated may be subject to natural tarnishing and it is suggested that they be inspected within 24 hours of receipt. CERTIFICATE OF CONFORMANCE A.T.G. INDUSTRIES INC. CERTIFIES THAT ALL ITEMS IN THIS SHIPMENT CONFORM TO REQUIREMENTS. MADE IN CANADA.		